

**AMENDMENTS TO THE DRAWINGS**

The attached sheets of drawings include changes as follows:

Figure 1 is modified to distinguish the labels from the shaded surfaces upon which they are placed, as requested by the Office Action.

Figure 3 is modified to add reference numbers 302A and 302B, as requested by the Office Action.

Attachment: Replacement sheets

## **REMARKS**

### **I. INTRODUCTION**

Claims 1-19 were pending in the application at the time the Office Action was mailed. No claims are amended or canceled by this response. Accordingly, claims 1-19 remain pending.

### **II. EXAMINER INTERVIEW**

Applicants' representatives thank Examiner Bashore for the telephonic interview conducted on February 21, 2007, in which the parties discussed the prior Examiner's objections to the drawings, rejections of the pending claims, the applied references, and the status of the application. Additional details are provided below. Should the Examiner need further information relating to the telephonic interview, he is asked to contact the undersigned.

### **III. DRAWINGS**

The Office Action objects to the drawings. A response to the objections is set forth below:

(A) The Office Action indicates that lead lines are required for each reference character except for those that indicate the surface or cross section on which they are placed. Applicants respectfully request that the Examiner withdraw this objection, as the reference characters are clear as to the items to which they correspond.

(B) The Office Action indicates that reference numbers are necessary and points to 35 U.S.C. § 113. That statute requires applicants to "furnish a drawing where necessary for understanding of the subject matter sought to be patented." (35 U.S.C. § 113.) There is nothing in that statute requiring reference numbers. Applicants believe that one skilled

in the art would understand Figures 3, 7B, 7C, 7D, 15, 16, 17, and 18 without additional reference numbers.

(C) The Office Action indicates that numbers, letters and reference characters should not be placed upon shaded surfaces. Applicants have amended Figure 1 to distinguish the labels from the shaded surfaces upon which they are placed.

(D) The Office Action indicates that two items in Figure 3 are labeled with reference numbers 302 and that they should be numbered differently. Applicants have amended Figure 3 to label the two items with reference numbers 302A and 302B, respectively.

(E) The Office Action indicates that parts of Figure 4 appear to be an expanded view of parts of Figure 3 but that the relationship is unclear. Figure 4 illustrates a logical view of some components of Figure 3. The relationships can be drawn using the markings "client," "server," and "network."

(F) The Office Action indicates that identical items in Figures 3 and 4 should have the same reference numbers. As described above in paragraph (e), Figure 4 illustrates a logical view of some components of Figure 3. Accordingly, the same reference numbers are not required because the items are not necessarily identical.

(G) The Office Action indicates that the relationship of items 418, 420, and 422 of Figure 4 are not illustrated to the rest of Figure 4. These items, as described in the specification, represent messages that flow between the client and server via the network. One skilled in the art would understand that the messages, though sent or received by the depicted logical components, are unassociated with the components in that they travel via the network and are logically unattached to the components.

(H) The Office Action indicates that Figure 7A is an "exploded view" of item 1014 of Figure 10A. One skilled in the art would recognize that whereas Figure 7A illustrates the

logical flow of a routine, item 1014 invokes the routine. Applicants respectfully submit that no correction is required.

(I) The Office Action indicates that Figure 8 appears to be a "partial exploded view" of item 422 of Figure 4. That is incorrect. Item 422 of Figure 4 is a message. Figure 8 is a routine. One skilled in the art would recognize that a message is not a routine.

(J) The Office Action indicates that the decision flow illustrated in Figure 9 appears to be in error. In applicants' response to the Office Action of January 25, 2006, the applicants amended Figure 9. The decision flow is correctly identified, and is described at paragraph [00123] of applicants' specification.

(K) The Office Action indicates that items 1014 and 1016 of Figure 10A are "condensations" of full or partial views disclosed in Figures 7A and 10B respectively. One skilled in the art would recognize that items 1014 and 1016 indicate that routines are invoked and that Figures 7A and 10B are the invoked routines. Applicants respectfully submit that no correction is required.

(L) The Office Action indicates that item 1413 does not appear in the disclosure. Item 1413 has been added to the disclosure.

(M) The Office Action indicates that Figures 16-18 are unclear. Applicants assert that one skilled in the art would understand these execution patterns. Should the Examiner need assistance in interpreting these figures, he is urged to contact the undersigned.

(N) The Office Action indicates that Figures 1, 5, 6, 9, and 11 should be designated as Prior Art. Applicants respectfully assert that none of these Figures is Prior Art.

(O) The following summarizes the amendments made to the drawings. Figure 1 has been amended to distinguish the labels from the shaded surfaces upon which they are placed. Figure 3 has been amended to label the two items with reference numbers 302A and 302B, respectively.

#### IV. SPECIFICATION

(A) The Office Action indicates that applicants are required to update the status of all parent priority applications in the first line of the specification. In applicants' response to the Office Action of January 25, 2006 ("previous Office Action"), applicants amended the specification to update the status of all related applications in the first paragraph of the specification. Accordingly, applicants respectfully request the Examiner to withdraw this objection.

(B) The Office Action indicates that the logic in the decision tree disclosed in paragraphs [00123]-[00125] and Figure 9 appears to be in error. Applicants amended Figure 9 in the response to the previous Office Action, and the logic in the decision tree is correct. Accordingly, applicants respectfully request that the Examiner withdraw this objection.

(C) The Office Action indicates that elements are discussed in the disclosure without citation to reference numbers, where those same elements are identified in the drawings by reference number. Applicants respectfully submit that no correction is required when it is clear to which portion of the Figures the disclosure refers.

#### V. CLAIMS

The Office Action rejects claims 1-19 under 35 U.S.C. § 102(b) over Iverson, Lee, "NODAL: A Filesystem for Ubiquitous Collaboration" ("NODAL"). Applicants respectfully traverse these rejections.

NODAL describes a "general, document-oriented distributed database and filesystem with a data model that allows addressing, searching and linking of content of any kind from any document. The data model defines documents as directed graphs of content nodes and provides adaptable addressing, security, privacy and *version control at the granularity of these nodes.*" (NODAL, Abstract, emphasis added.)

In various embodiments, applicants' technology is directed to re-creating versions of hierarchical documents in a distributed document object model ("DDOM") system. In some cases, any arbitrary version of a document can be re-created in the DDOM system by using a snapshot and mutation messages. A snapshot of a document may be periodically stored in a version storage associated with the server. This snapshot completely describes a document at a certain time. The DDOM system also may store messages relating to mutations made to the document. These messages may be stored in a message storage. The system can then "roll forward" or "roll back" a document to its state at any time by applying or removing mutations to a snapshot. (See applicants' specification, paragraphs [0074]-[0075].)

The pending rejected claims each recite a snapshot of a hierarchical document. For example, claim 1 recites "creating a snapshot of the hierarchical document; storing a modification made to the hierarchical document; ... loading the located snapshot; and using the stored modification to re-create the requested version." Applicants' specification states that a "snapshot completely describes a document at a certain time." (Paragraph [0081].) To completely describe a hierarchical document, a snapshot includes all nodes of the entire tree that represents the hierarchical document. NODAL does not disclose or suggest a snapshot of the entire tree of a hierarchical document. Rather, NODAL describes a document pedigree that "is stored as a chain of previous versions for every node in the repository." (NODAL, p. 20, emphasis added.) Further, in NODAL, "each node ... maintains a chain of previous versions of the node's content." (NODAL, p. 21.) As an example, if some nodes do not change, they would assumably not have pedigrees. NODAL thus describes storing versions of nodes, which is analogous to storing a snapshot

of each node, but not of the entire tree, of a hierarchical document. NODAL's Abstract further reiterates that NODAL describes storing versions of nodes: "The data model defines documents as directed graphs of content nodes and provides ... *version control at the granularity of these nodes.*" (NODAL, Abstract, emphasis added.) Because NODAL does not disclose or suggest a snapshot of the entire tree of a hierarchical document, NODAL does not disclose or suggest a snapshot of a hierarchical document. Independent claims 8, 10 and 13 each also recite "a snapshot of the hierarchical document." Accordingly, each of the pending independent claims is patentable over NODAL.

Applicants' technology can re-create a requested version of a hierarchical document by locating the snapshot stored at the time closest to the requested version and then applying or removing stored modifications that are between the time of the closest snapshot and the time of the requested version. In contrast, NODAL describes that "[t]o replay all of the changes made to a document involves ... sorting the document's nodes in a priority queue based on modification timestamps and then navigating the history of these nodes via the queue." (NODAL, p. 21.) NODAL thus describes that to re-create a requested version, NODAL walks through all stored modifications to all nodes of the document between the time a re-creation request is issued and the time associated with the requested version. NODAL's technique can be very time-consuming in the case of a hierarchical document with many modifications to its nodes. Indeed, NODAL characterizes replaying all the changes made to a document as a "more substantial effort." (NODAL, p. 21.) Applicants' technology provides a significant advantage over NODAL because the use of a stored snapshot permits applying or removing fewer stored modifications to re-create a requested version. This difference further clarifies that NODAL does not disclose or suggest a snapshot of a hierarchical document.

## VI. CONCLUSION

The independent claims each recite a novel combination of elements that is neither taught nor suggested by NODAL and so cannot be rejected under 35 U.S.C. § 102(b) or 35

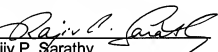
U.S.C. § 103(a). Because the dependent claims import the limitations from the claims on which they depend, they also cannot be rejected under 35 U.S.C. § 102(b) or 35 U.S.C. § 103(a).

In view of the foregoing, applicant believes the pending application is in condition for allowance.

Please charge any deficiencies or credit any overpayments to our Deposit Account No. 50-0665, under Order No. 612188006US from which the undersigned is authorized to draw.

Dated: March 19, 2007

Respectfully submitted,

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Attachments



Application No. 10/817,050  
Amendment dated March 19, 2007  
After Final Office Action of October 19, 2006

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## **APPENDIX**